

TROPICAL RAINFALL MEASURING MISSION

**May 18, 1998 - May 24, 1998
DOY 138-144**

TRMM MISSION OPERATIONS

- TRMM is flying in the -X Forward direction.
- The next Yaw maneuver is scheduled for May 25 (145).
- The next Delta-V maneuver is tentatively scheduled for May 31 (151) using the LBS thrusters.
- CERES internal and solar calibrations are scheduled for June 3 (154).
- CERES Alongtrack operations are scheduled for June 7 (158).
- The Beta angle range for the week of May 25 - May 31 (145-151) is -5.7° to 27.0° .
- New Solar Array Software Stops will be loaded on May 26 (146).

TRMM SUBSYSTEM OPERATIONS

Attitude Control System

A pair of ISP Delta-V burns was successful on 98-143 at 16:38:26z and 17:24:13z, for a duration of 38 and 26 seconds, respectively. The off-modulation of the -Pitch thruster (#6) was 35% and 30%, respectively (65% and 70% on time). The remaining fuel is 834.07 kg.

Flight Data System (FDS)/Command & Data Handling (C&DH)

The Frequency Standard continues to drift in the negative direction. The frequency value remains at x722. The current drift rate is $-3.57 \mu\text{s/hr}$ and the drift value is $-517 \mu\text{s}$. The current UTCF remains 31535997.883891 seconds.

EDAC multi-bit errors were received on 98-138 at 01:17:42 and 139 at 06:20:35.

Q-Channel Restarts have occurred on 98-138 at 08:55:06 and 17:18:30, 143 at 19:04:51, and 144 at 01:45:41.

Reaction Control Subsystem (RCS)

The RCS subsystem performed nominally during this period (see ACS for Delta-V information).

Power Subsystem

Currently, Battery-1 and Battery-2 are both reaching 100% state of charge at a C/D setting of 1.03.

Battery-2 Cell-1 is still reaching YH limits 1.50 V to 1.52 V. The power system is being monitored closely by Code 563 and the FOT.

Electrical Subsystem

The Electrical subsystem operated nominally during this period.

Thermal Subsystem

The Thermal subsystem operated nominally during this period.

Deployables Subsystem

The Deployables subsystem performed nominally during this period. Testing is being concluded this week on the solar array $\pm 50^\circ$ tracking scenario for Delta-V and Yaw maneuver performance. The new change will be implemented on 98-146 (Tuesday, May 26th) to take full advantage of trending performance through the entire beta angle cycle from 0° to the worst-case shadowing angle of $+58^\circ$. The FOT will closely monitor array activity, temperatures, power, and attitude performance if this change is made.

RF/Communications Subsystem

The RF/Communications subsystem has performed nominally during this time.

SPACECRAFT INSTRUMENTS

CERES

The CERES Instrument performed nominally while executing its normal sequence of Crosstrack/Biaxial commanding. CERES operated in restricted Biaxial scan mode on 98-140 and in Contamination Safe mode during the Delta-V maneuver on 98-143. The Alongtrack operations on 98-143 (May 23rd) were successful. The LaRC IOT and TRMM FOT are working to update the OA and include the new operations scenario.

Internal Calibrations		Solar Calibrations	
<u>Date</u>	<u>Time</u>	<u>Date</u>	<u>Time</u>
98-140	15:05:00	98-140	13:11:20

LIS

LIS performed nominally during this time period. A command request to reset the Watchdog Time-out was performed on 98-139 during the event at 19:41.

PR

PR performed nominally during this time period. PR performed an Internal Calibration on 98-140 at 03:00:00z and two External Calibrations, on 98-142 at 23:33:11 and 143 at 01:09:37, via command request.

TMI

TMI performed nominally during this time period.

VIRS

VIRS performed nominally during this time period. VIRS warning messages continue to occur: #78 and #30. Also, message #20 occurred on 98-142 at 09:31:23 and caused another Software Bus error (Anomaly #26). A VIRS Solar Calibration command request was performed on 98-143 at 16:58:45 for a duration of 2 minutes.

GROUND SYSTEM

Release 7.1 (three server config.) has been running successfully on all servers in the MOC since 98-131 (May 12): real-time and mission planning. No major problems have been experienced at this time.

The cooling fans in front end 2 were replaced on 98-142.

The first DSN test with IP will be conducted in early June with Goldstone. Later tests will verify compatibility with the remaining DSN sites as well as the GN AGO site.

EVENT REPORTS

No new Event Reports have been written during this period.

ANOMALIES

No new Anomaly Reports have been written during this period.

Prepared by

Ed Weidner
TRMM Systems Engineer

Approved by

Jeff Volosin
TRMM FOT Manager